Message

From: J. Thaddeus Coin, PhD, MD [jtcoinneurology@gmail.com]
Sent: 6/20/2017 12:12:57 PM
To: Strynar, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5a9910d5b38e471497bd875fd329a20a-Strynar, Mark]
CC: Lindstrom, Andrew [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=04bf7cf26aa44ce29763fbc1c1b2338e-Lindstrom, Andrew]
Subject: Re: asking your guidance in my reading on fluorocarbons

Andy and Mark,

Thank you so much for your, kind, thoughtful and quite helpful responses!

I have done a quick first read through the papers and links you sent. I am so impressed with the lower limits of detection you and your colleagues achieve. In addition the identification of the unknowns was truly a marvel. You all are excellent scientists!

Thanks so much for the full pdf's. I had found the abstract for Longnecker et al. but had not been able to get to the full paper.

Thanks, Mark for the information about the salts and CAS numbers for the GenX compounds.

I am also fascinated by your use of blood samples from pregnant women. Were they participants in a study?

Well currently, I have an extra exam room in my office that could be modified to accommodate phlebotomy. In my neurology practice we do few procedures and none that risk spillage of body fluids. However we could remove carpet from one room, replace with linoleum, and be ready for sample collection.

Some neurologists offer skin punch biopsies for cutaneous nerve count analysis in people with suspected peripheral neuropathies. I was thinking about setting up for that. One thing you get with such an easy and low-risk biopsy is a sample of subcutaneous fat. Looking at the structures of these fluorocarbon acids, I would expect a degree of lipid solubility and accumulation. So for the distant future I could see a small pilot study for the feasibility of measuring your compounds in punch biopsy samples. I imagine just the measurement would be an accomplishment. But what if there was a relationship with exposure?!

There would be no shortage of volunteers for blood and urine sampling as this has been daily front page news for almost 2 weeks. I see patients from as far away as Myrtle Beach, Fayetteville and Morehead City, so I could recruit quite a geographic sample (though one might question the selection of participants with known or suspected neurological disease - or maybe that would be an advantage?).

Well there would be quite a bit of work to do to organize such studies. But if you already have a project ready to go and just need a place to operate we can talk about arranging a space within which to do it.

You know, Mark, I might have missed it, but I had not heard that our actual DW supply had been tested. If so that may be one of the many things that has gone on around here underneath the public radar. The Sweeney plant is the source of my home's water. Yes I recall a year or so ago, when the main line from the Cape Fear River intake ruptured, that both Wilmington and Brunswick county water supplies were affected. So some of Brunswick county feeds from that source too. Southern and northern New Hanover county areas get their water from wells. So a person's address and their source of drinking water (and over what amount of time) will be key data points.

You know I could see you all using one of my exam rooms as it is for interviews, history and demographic collection, then contract with an independent lab for blood and urine sample collection. Labcorp is just 3 doors north of my office on Delaney avenue.

I am continuing on my steep learning curve. Thanks so so much for helping me! However it plays out, my congratulations to you and your colleagues for excellent and impactful work. Best wishes for more future success. If I am able to help it would be an honor.

Mark I will take you up on your offer to chat after I have read and thought some more.

Once again I can't thank you enough!

Regards,

Thad

On Mon, Jun 19, 2017 at 10:30 AM, Strynar, Mark <Strynar.Mark@epa.gov> wrote:

> Thad,
>
> Andy was away at a PFAS conference last week presenting some of our data concerning the findings of GenX in the water in NC and in WV/OH samples.
>
> We have been considering biomonitoring for GenX and related analytes in serum/urine of those exposed for some time. As there are no existing methods available we need to produce methods for inclusion in bio-monitoring studies. I think this is a fantastic idea. This collection of samples would show via biomonitoring data internal body burden which has not been done for these analytes yet.
>
> I am sending a link to the GenX chemical(s) for chemicals and physical data. You should know that the company refers to the ammonium salt of the chemical as the GenX processing aid. However in water it exists as a free acid. Here is a link to both.
>
> The CAS for the GenX ammonium salt is CAS 62037-80-3
>
> https://comptox.epa.gov/dashboard/dsstoxdb/results?utf8=%E2%9C%93&search=62037-80-3
>
> The free acid for has the CAS 13252-13-6
>
> Called undecafluoro-2-methyl-3-oxahexanoic acid
>
> https://comptox.epa.gov/dashboard/dsstoxdb/results?utf8=%E2%9C%93&search=13252-13-6

The only DW system I am aware of that has been tested is the Sweeny plant in Wilmington, NC. I do believe they share a common raw water with Brunswick county. In addition there is a raw water intake that feeds the Smithfield packing plant about 5-10 miles downstream of Chemours that I believe has not been tested. I expect it would be higher as it is closer to the source.

I am glad to chat.

Mark

From: J. Thaddeus Coin, PhD, MD [mailto:jtcoinneurology@gmail.com]
Sent: Sunday, June 18, 2017 9:52 PM
To: Strynar, Mark <Strynar.Mark@epa.gov>
Subject: Fwd: asking your guidance in my reading on fluorocarbons

Hello Dr. Strynar,

I am forwarding this to you as you are clearly a key member of the research team. I have not yet received a response from Dr. Lindstrom.

I am continuing to learn about these C8 replacement compounds. I am now trying to find physical property data (solubility, hydrophilicity, tissue affinity, etc.). Any help would be greatly appreciated.

I am considering creating a registry of fellow exposed individuals with body fluid collection.

My brother, the environmental engineer asked a great question: have public water systems been sampled and tested?

Any little direction would be greatly appreciated.

Thanks!

Thad Coin

---------- Forwarded message ----------
From: **J. Thaddeus Coin, PhD, MD** <jtcoinneurology@gmail.com>
Date: Fri, Jun 16, 2017 at 1:57 PM
Subject: asking your guidance in my reading on fluorocarbons
To: lindstrom.andrew@epa.gov

Hello Dr. Lindstrom,

I apologize for contributing to the flood of email I am sure you are getting.

I am a neurologist with some credentials in Chemistry and Biochemistry who has lived and practiced in Wilmington, NC for the past 29 years. You may have run into my brother, Patrick, who is an environmental engineer and has done research in asbestos. He has taught at Durham Technical Institute since the 1990's.

I find, as of last week, that my family, I and most of the residents of Wilmington are unwitting subjects of the experimental exposure to GenX and other poly- and perfluorocarbons. After jumping into the literature when the news broke last week, I am so surprised that few Wilmingtonians appear to have noticed the work that you and your colleagues have been publishing for years! I am not just a little suspicious of our civic leaders!

In any case, I want to learn all that I am able. I envision participating in the future in data collection.

I have not been able to get to methods of collecting human blood and tissue samples for mass spec.analysis . Would you be willing to give me a little guidance in the right direction? I am just a private practitioner who just uses Google and occasionally my Neurology society memberships for online research. But I am working on methods to broaden my literature access.

I have enjoyed reading parts of your papers and presentations online and hope to dive deeper!

Thanks so much for any direction you can give me!

Thad Coin

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